

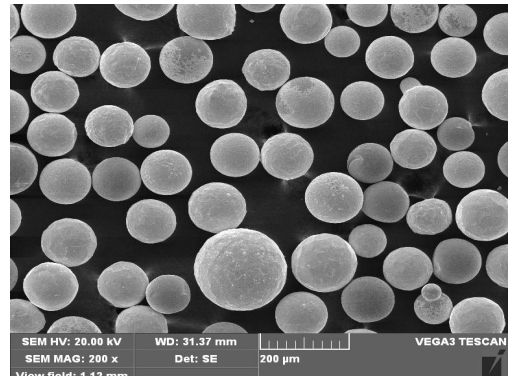
Nickel Based PTA Powders for Glass Mould Manufacture

1. Introduction

Sentes-BIR offers ForteCoat range gas atomized, self-fluxing nickel based PTA powders with successful results in glass industry.

Sentes-BIR's proprietary gas-atomization process ensures satellite-free, homogeneous and consistent powders. These perfectly spherical particles increase in the flow rate through spraying system passages, with fewer disturbances due to satellites.

The chemistry and particle size of ForteCoat PTA powders are carefully controlled to insure consistent high quality coating properties. Coating hardness is in the range of HRC 20 – 35, depending on the specific alloy chosen.



typical gas-atomized PTA powder

1.1 Uses and Applications

PTA (Plasma Transferred Arc) welding method enables a metallic bonding with the both cast iron and bronze base materials.

PTA welding commonly used in glass industry on these parts:

- complete moulds
- bottom plates
- guide rings
- neck rings
- mould bottoms
- mould preforms
- blow head

2. Material Information

2.1 Chemical Compositions

Product Code	%						
	Ni	Cr	B	Si	C	Fe	Others
9333	Balance	5.6	1.2	3	0.25	2.3	Al1.2
9325	Balance	3.3	1.1	3.1	0.15	2.2	Al0.5
9029C	Balance	5.7	1	4.7	0.32	1.6	
9134	Balance	4	1	2.7	0.15		P2.2 Mo2.7

2.2 Hardness

Product Code	Hardness (HRC)
9333	30-35
9325	20-25
9029C	33-37
9134	32-36

2.3 Particle Size Distribution

Product Code	Particle size μm
9333	45 - 125
9325	53 - 150
9029C	53 - 180
9134	63 - 210

** (other particle size distributions are available on request)*

3. Selection Criteria

ForteCoat 9333 and 9235 powders are developed specifically for coating cast iron parts via the automatic Plasma Transferred Arc (PTA) process. Although developed for use on cast iron glass mold parts, these powders are also well suited for use in applications where a high nickel content coating is appropriate.

ForteCoat 9333 powder is used for bottom plate, neck rings, guide rings, mould bottoms, blow head, guide rings

For mould preforms and moulds made of cast iron ForteCoat 9325 is preferred.

ForteCoat 9029C and 9134 powders are developed for bronze parts. These powders can be used for Zn containing bronzed, without problems.

Most common uses of ForteCoat 9029C and 9134 powders are in glass industry are neck rings and moulds made of bronze (minox).